

REMARKS

This paper is submitted in response to the Office Action mailed August 25, 2004. Claims 1, 12, 14 and 15 have been amended and claims 20-23 have been added. Claims 1-23 now remain in the application. Applicants respectfully traverse the objection to the Declaration/Oath and, in view of the foregoing amendments, as well as the following arguments, Applicants respectfully submit that this application is in complete condition for allowance and requests reconsideration of the application in this regard.

The Examiner objects to the inventors' submitted Declaration/Oath because second inventor Edward C. Taylor did not sign the Declaration/Oath. According to our records, and according to the records of the Patent and Trademark Office, as indicated on Private PAIR, the file does include a signed declaration from Mr. Taylor. (See p. 6 of the Declaration/Oath). Another copy of the signed declaration is provided for the Examiner's review. Accordingly, Applicants request that the objection be withdrawn.

Claims 1, 4, 5, 6, 9, 10, 12-17 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,716,520 issued to Locke, Jr. et al. in view of U.S. Patent No. 4,320,285 issued to Koether. Claims 2, 3, 7, 8, 11 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Locke, Jr. et al. in view of Koether and in further view of U.S. Patent No. 4,381,075 issued to Cargill et al. Locke, Jr. et al. is directed to a dispensing system for a hot melt adhesive including a holding tank (10), manifold (12), hoses (14), and dispensers (16). The various components of the dispensing system include a heater (H), resistive temperature sensor

(S), and associated signal control switch (R) that are connected to a designated channel in a controller, such as microcomputer (30). Different components correspond to different channels in the controller. With this particular configuration in mind, the Locke, Jr. et al. reference is directed to methods of checking the various channel connections to make sure that the heater, sensor, and switch all correspond to the same component as well as to methods to check that the heater, sensor, and switch are working properly.

As the Examiner correctly points out, Locke, Jr. et al. does not disclose a second temperature sensor associated with any component of the dispensing system, i.e., each component includes only a single temperature sensor (S). The Examiner cites Koether as teaching two temperature sensors for a single device. Koether discloses a fryer (70) having a primary thermostat (10) connected to the fryer (70) through a cooking computer (90). The cooking computer (90) includes a temperature probe (95) to provide an indication of the temperature of the cooking oil (72). The output from temperature probe (95) is fed to the primary thermostat (10). The primary thermostat (10) includes a number of elements for controlling the temperature of the cooking oil (72) including a heat control switch (40) that turns the heater (73) on when the temperature of the cooking oil (72) drops below a specified temperature. Primary thermostat (10) also includes comparators (50, 55) to determine whether the temperature probe (95) is open or shorted.

The fryer (70) further includes a separate backup thermostat (85) including means to select the desired temperature of the cooking oil (72), a temperature sensor (86) that likewise provides an indication of the temperature of the cooking oil (72), and a relay switch to turn on the heater (73) when the temperature of the cooking oil (72) falls

below a specified temperature. In use, when the comparators (50, 55) detect an open or shorted condition in temperature probe (95), a relay (60) is activated to transfer thermal control of the fryer (70) to the backup thermostat (85).

Independent claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Locke, Jr. et al. in view of Koether. Applicants have amended claim 1 to make more clear that the present invention has a centralized controller that is capable of receiving signals from both the first and second temperature sensing devices and that the controller includes a program for determining whether one of the temperature sensing devices has failed or malfunctioned.

Koether fails to disclose a controller capable of receiving signals from both the temperature probe (95) and temperature sensor (86). Koether discloses that fryer (70) is controlled either by primary thermostat (10) or by backup thermostat (85). In essence, Koether discloses two separate controllers each having separate temperature sensors and separate associated circuitry to determine when to turn the heater on and off. The primary thermostat (10) and backup thermostat (85) are operatively uncoupled in that there is no communication between the two. This is because in relay 60, moveable contact 63 can connect terminal 64 with either contact 61 or 62, not with both. Claim 1 specifically recites that the controller is actively connected to the first temperature sensing device and the controller is capable of being actively connected to the second temperature sensing device.

Additionally, Koether fails to disclose a program that operates with both temperature probe (95) and temperature sensor (86) to determine whether one of them has failed or malfunctioned. Koether does disclose comparator circuits (50, 55) to

determine whether temperature probe (95) is in an open or shorted condition. Nevertheless, Koether has no program, circuit or other testing means that is operable with both the temperature probe (95) and temperature sensor (86) to determine whether one has failed or malfunctioned. In Koether there is no program or other circuitry to determine whether the temperature probe (86) has failed or malfunctioned. Claim 1 specifically recites that the controller includes a program for determining if one of the temperature sensing devices has failed or malfunctioned. For at least these reasons, Applicants respectfully submit that Koether fails to teach or suggest the combination of elements recited in independent claim 1 and the rejection should be withdrawn. Furthermore, because claims 2-5 depend from an allowable independent claim, these claims should be allowable as well.

Independent claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Locke, Jr. et al. in view of Koether. Applicants respectfully traverse the rejection for the following reasons. Claim 6 requires that both the first and second temperature sensing devices be used to control the temperature of the heated liquid. In particular, claim 6 recites "a controller actively connected to said first temperature sensing device and actively connected to said second temperature sensing device." The specification explicitly defines "actively connected" to mean "that the temperature sensing device is being used to control the temperature of the liquid conveying element." (p. 4, lns. 9-10). Thus, the controller monitors both temperature sensing devices and operates the heating element based on both of the readings to maintain a desired temperature of the heated liquid. Koether does not disclose monitoring temperature probe (95) and monitoring temperature sensor (86) and operating the

heater (73) based on both of those readings. Instead Koether discloses monitoring temperature probe (95) and only upon failure of probe (95), monitoring temperature sensor (86) to control heater (73). Thus, Koether does not teach or suggest a controller actively connected to a first and second temperature sensing device as specifically recited in claim 6.

In addition, claim 6 requires that when one of the temperature sensing devices fails or malfunctions, then the remaining temperature sensing device is used to operate the heating element. In particular, claim 6 recites "said first and second temperature sensing devices capable of being selectively deactivated upon failure or malfunction such that said controller only communicates with the remaining actively connected one of the first and second temperature sensing devices." This means: i) if the first temperature sensing device fails or malfunctions, then the first temperature sensing device is deactivated and the second temperature sensing device is used to operate the heating element; and ii) if the second temperature sensing device fails or malfunctions, then the second temperature sensing device is deactivated and the first temperature sensing device is used to operate the heating element. Koether, on the other hand, discloses that if the heating probe (95) fails or malfunctions, then heating probe (95) is deactivated and temperature sensor (86) is then activated to operate heater (73). Koether, however, does not disclose that if the temperature sensor (86) fails or malfunctions then temperature sensor (86) is deactivated and temperature sensor (95) is used to operate heater (73). Thus, Koether does not teach or suggest first and second temperature sensing devices capable of being selectively deactivated upon failure or malfunction as specifically recited in claim 6.

In reference to claim 6, the Examiner states: "As per claim 6 use of simultaneous biasing of the second thermostat is considered obvious to the artisan, since bias exists through ground and bias could merely mean biased in a standby_condition." Here, the Examiner uses language that seems inapplicable to claim 6. In particular, claim 6 does not recite "simultaneous biasing" or a "second thermostat." The term "ground" does not appear in claim 6. Moreover, the term "standby_condition" is not used in claim 6. Additionally, Applicants are unsure of what "bias exists through ground" means or how this makes claim 6 obvious in light of the cited references. If the Examiner is interpreting claim 6 to allow for one of the first and second temperature sensing devices to be in a stand-by mode, i.e., not controlling the temperature of the heated liquid, then Applicants respectfully disagree as the claim specifically recites that both the first and second temperature sensing devices are actively connected to the controller, where actively connected is defined to mean controlling the temperature of the heated liquid. In view of the above arguments, Applicants believe independent claim 6 is allowable and the rejection should be withdrawn. Furthermore, as claims 7-11 depend from allowable claim 6, Applicants submit that these claims are allowable as well.

Independent claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Locke, Jr. et al. in view of Koether. Applicants respectfully traverse the rejection for the following reasons. Claim 12 is directed to the temperature sensing device and requires a housing with "first and second temperature sensing devices carried by said housing." Koether does not disclose such a temperature sensing device as there is no housing that carries temperature probe (95) and temperature sensor (86).

In addition, claim 12 recites "first and second electrical leads adapted to be coupled to the controller." Koether however, does not disclose coupling the electrical lead of temperature probe (95) and temperature sensor (86) to a controller. The temperature probe (95) is coupled to cooking computer (90) (which is coupled to primary thermostat 10) and temperature sensor (86) is coupled to fryer thermostat (85). As discussed above, this represents coupling the probe (95) and sensor (86) to two different controllers. For at least these reasons, independent claim 12 should be allowable. Furthermore, as claims 13-14 depend from allowable claim 12, Applicants submit that these claims are allowable as well.

In addition, dependent claim 14 requires that the "first and second temperature sensing devices are further coupled to a common electrical lead." Koether fails to teach or suggest that temperature probe (95) and temperature sensor (86) be coupled to a common electrical lead. As shown in Fig. 2 of that reference, moveable contact (63) is configured to connect terminal (64) with either contact (61) or contact (62) thus temperature probe (95) and temperature sensor (86) cannot be coupled to a common electrical lead as specifically recited in claim 14. In addition, claim 14 requires that the common electrical lead be "adapted to be coupled to the controller." Thus, while Koether may show that temperature probe (95) and temperature sensor (86) are separately grounded, Koether does not show a common electrical lead adapted to be coupled to a controller as specifically recited in claim 14. For these reasons, and in addition to the above reason, claim 14 should be allowable.

Independent claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Locke, Jr. et al. in view of Koether. While Applicants traverse the

rejection, Applicants have also amended independent claim 15. In particular, claim 15 specifically recites communicating the detected temperature from both the first and second temperature sensors to the controller. As discussed above in reference to independent claim 1, Koether does not disclose a controller that is capable of receiving signals from both the temperature probe (95) and temperature sensor (86). In addition, claim 15 specifically recites executing a program to test the operability of both the first and second temperature sensing devices. Again as discussed above in reference to independent claim 1, Koether does not disclose a program that tests the operability of both the temperature probe (95) and temperature sensor (86). For these reasons, independent claim 15 should be allowable. Furthermore, as claims 16-19 depend from allowable claim 15, Applicants submit that these claims are allowable as well.

Applicants further submit herewith new claims 20-23, which depend either from allowable independent claim 1 or 6. As such, Applicants submit that new claims 20-23 are thus allowable.

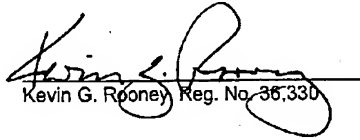
Conclusion

In view of the foregoing amendments and remarks given herein, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Please charge Deposit Account No. 23-3000 \$54.00 for the excess claims fee as required by 37 C.F.R. § 1.16 (b) and (c). If any other charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

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